

NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

382C – FENCE – STEEL PIPE IN CONCRETE CURBING

1. SCOPE

The work shall consist of furnishing and installing fences, including gates and related essential components.

2. MATERIALS

Unless otherwise shown on the drawings or specified in Section 6, materials for barbed, woven or wooden fencing shall conform to the following requirements:

Wire

Fencing wire shall be galvanized barbed wire or woven wire. Where high-tensile metal is utilized, it shall have class III galvanization. Gauge required as a minimum shall be as listed in Table 1.

Table 1 – Gauge Wire Required for Conventional Barbed or Woven and Hi-tensile Wire

Material	Conventional	Hi-Tensile
Barbed Wire	12-1/2 g.	15-1/2 g.
Barbs	4 pt – 14 g.	16-1/2
Top & Bottom Woven	10-1/2g.	10-1/2
Remaining Woven	11 g.	12-1/2g.
Stay Wires	11 g.	12-1/2 g.

Under no circumstances shall barbed or woven wire be intentionally electrified. All reasonable measures shall also be taken to ensure such wires will not be accidentally electrified.

Fence Posts

Support post shall be extra strong, black finish, plain end, steel pipe meeting ASTM A-53 with a nominal pipe size (NPS) of 2–1/2 inches. Post lengths shall be as shown on the drawings or as specified in Section 6. Posts used for gates, pushoffs, and corners shall have a minimum NPS of 3 inches or as specified in Section 6.

Fasteners

Fasteners for securing wooden planking to the steel posts shall be galvanized pipe clamps and carriage bolts with washers and nuts.

Fasteners for securing barbed or woven wire fencing to the steel posts shall be 12-1/2 gauge smooth galvanized wire.

Wooden Fences

Wooden planking shall be douglas fir, western larch, southern yellow pine, white oak or other wood of equal life or strength. All wood planking shall have a minimum of 0.40 **lbs/ft³** CCA pressure treatment. All planks shall be a minimum of 2 inches by 6 inches nominal.

Wire Cable

Wire cable shall be galvanized steel wire rope (cable), shall be a minimum of 3/8 inch diameter, and shall meet the requirements of Federal Specification – Wire Rope and Strand (RR-W-410D).

Gates

Gates shall be installed according to the gate manufacturer's recommendations.

3. SETTING POSTS

Steel posts or sleeves shall be set in the concrete curbing when the concrete is placed. The steel post or sleeve shall be set to the spacing, location, and to the depth and minimum cover shown on the drawings or as specified in Section 6. No fencing shall be attached to the steel post until the concrete in which the post has been set cures for at least 48 hours. The cavity inside the post shall be filled with concrete or a sand-cement mortar mix, or capped.

4. ATTACHING FENCE TO POSTS

The fence shall be attached to posts as follows:

- a) The fencing shall be placed on the side of the post opposite the area being protected
- b) The fencing vertical spacing shall be as shown on the drawings or as specified in Section 6.
- c) The wire fencing shall be fastened to each post, end post, and corner post by diagonally double wrapping the smooth wire around each horizontal strand barbed wire or each alternate strand woven wire, and around each steel post and tying it back on itself with no less than 3 tightly wound wraps.
- d) The wooden fencing shall be fastened to each steel post by using pipe clamps as shown on the drawings. The clamps shall fit snugly around the post and the carriage bolt head shall be on the same side as the livestock. Each wooden plank shall be long enough to span 3 posts so that all joints of planks do not occur at one post, except at fence corners and ends.
- e) Wire cable shall be securely fastened to each steel post as shown on the drawings or as specified in Section 6.

5. MEASUREMENT AND PAYMENT

Method 1

For items of work for which specific unit prices are established in the contract, the length of each type and kind of fence will be measured to the nearest linear foot along the profile of the fence including gates. Payment for each type and kind of fence will be made at the contract unit price. Such payment will constitute full compensation for all labor, materials, equipment, tools, and other appurtenances necessary and incidental to the completion of the work, including supplying, fabricating, and installing gates.

Method 2

For items of work, for which specific lump sum prices are established in the contract, the quantity of each type and kind of fence will not be measured for payment. Payment for each kind and type and kind of fence will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, materials, equipment, tools, and other appurtenances necessary and incidental to the completion of the work, including supplying, fabricating and installing gates.

Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 6.

6. ITEMS OF WORK AND ADDITIONAL CONDITIONS: